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抗促胃液素疫苗mG17-CRM197单用及联合5-FU抑制小鼠结肠癌的生长 点此下载全文

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摘要:

目的:观察抗促胃液素(gastrin,又称胃泌素)疫苗mG17-CRM197(mG17)单用及联合氟尿嘧啶(fluorouracil,5-FU)对小鼠结肠癌C38移植瘤的抑制作用。方法:采用Western blotting法检测结肠癌细胞促胃液素受体(CCKBR)的表达情况,磺酰罗丹明B(SRB)法检测mG17-NH 2对C38细胞增殖的影响。C57B L/6小鼠随机分为PBS组、CRM197组、mG17组、5-FU组和mG17/5-FU组,ELISA法检测小鼠血清中抗G17抗体水平;免疫后的小鼠皮下进行肿瘤移植,5-FU组和mG17/5-FU组给予5-FU(20 mg/kg,q2d×5),其他组给予生理盐水,通过肿瘤生长曲线和瘤质量评价不同治疗方案对C38移植瘤生长的影响。结果:小鼠结肠癌C38细胞表达CCKBR,mG17-NH 2浓度依赖性上调CCKBR的表达,且能促进 C38细胞增殖(细胞增殖率为115.7%~133.5%)。mG17疫苗免疫3次后,小鼠血清抗mG17抗体水平依次升高。mG17组、5-FU组和mG17/5-FU组对C38移植瘤有显著抑制作用,抑瘤率分别为58.0%、60.5%和80.7%;按金氏法计算,mG17与5-FU联用的Q值为0.97,两药联用出现相加作用。结论:mG17-CRM197疫苗对小鼠结肠癌C38移植瘤治疗有效,与5-FU联用增强对小鼠结肠癌的抑制。

关键词: 促胃液素 疫苗 结肠癌 5-氟尿嘧啶

Anti-gastrin vaccine mG17-CRM197 alone or in combination with 5-FU inhibits growth of mouse colon tumors Download Fulltext

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Abstract:

Objective: To determine the inhibitory effect of anti-gastrin vaccine mG17-CRM197 (G17) alone or in combination with 5-FU on the growth of mouse transplanted C38 colon tumors. Methods: Gastrin receptor (CCKBR) expression in C38 cells was detected by Western blotting analysis, and the influence of G17 on proliferation of C38 cells was examined by sulforhodamine B (SRB) assay. C57BL/6 mice were randomly divided into 5 groups: PBS, CRM197, G17, 5-FU and G17/5-FU. The anti-G17 levels in mouse serum were measured by ELISA assay after immunization. After immunization, mice were subcutaneously injected with C38 cells, and then treated with 5-FU (20 mg/kg, q2d×5) in 5-FU and mG17/5-FU groups, or treated with 0.9% sodium chloride in the other groups. The influences of different therapies on the growth of C38-implanted tumors were evaluated by tumor growth-curves and tumor weights. Results: Mouse colon cancer C38 cells expressed CCKBR; mG17-NH 2 dose-dependently increased the expression of CCKBR. Exogenous mG17-NH2 increased the proliferation of C38 cells, with the proliferation rate being 115.7%-133.5%. Mouse serum anti-G17 antibody was increased after immunization with G17 vaccine for 3 times. The tumor growth and tumor weights were significantly inhibited in G17, 5-FU and mG17/5-FU groups, with inhibitory rates being 58.0%, 60.5% and 80.7%, respectively (P<0.05), and tumor weight in mG17/5-FU group was less than those in the G17 and 5-FU groups. Conclusion: G17-CRM197 vaccine can inhibit the growth of mouse transplanted C38 colon tumors, and the inhibitory effect is enhanced when it is combined with 5-FU.

Keywords: gastrin vaccine colon neoplasmas fluorouracil

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